

1. A method of replenishing human growth hormone (hGH) in an adult human comprising administering an agent consisting essentially of recombinant hGH in an individualized dose to replenish hGH, said individualized dose determined by

5 (1) determining a response of said human to an initial dose of said agent administered on a daily basis,

(2) thereafter determining a response of said human to serially increased doses of said agent administered on a daily basis,

10 (3) selecting said dose of agent from (2) producing an optimal replenishment to administer as a maintenance dose, and

(4) thereafter administering said dose from (3) to replenish hGH.

2. The method of claim 1 wherein said maintenance dose is administered monthly.

3. The method of claim 2 wherein said dose comprises a microsphere formulation of said agent.

4. The method of claim 1 wherein said dose is administered daily.

5. The method of claim 1 wherein said human is a male and said maintenance dose is in the range of about 10-14 $\mu\text{g/kg/day}$.

6. The method of claim 1 wherein said human is a female and said maintenance dose is in the range of about 14-20 $\mu\text{g/kg/day}$.

7. The method of claim 1 wherein said response comprises increased insulin like growth factor levels.
8. The method of claim 1 wherein said human is a male and said initial dose is about 2 $\mu\text{g/kg/day}$.
9. The method of claim 1 wherein said human is a female and said initial dose is about 4 $\mu\text{g/kg/day}$.

0988959-042001

10. A method of providing an adult human with human growth hormone (hGH) comprising

administering an agent consisting essentially of recombinant hGH to said human on a daily basis at an initial dose to produce an initial response to said agent,

thereafter administering at least one serially increased initial dose of said agent on a daily basis and evaluating said human's response to said serially increased dose to produce an individualized optimal response to said agent, and

thereafter administering said dose producing said optimal response as a maintenance dose.

11. The method of claim 10 wherein said optimal dose is administered monthly.

12. The method of claim 10 wherein bioavailability data are used to calculate said maintenance dose.

13. The method of claim 10 wherein said response is evaluated by evaluating a level of insulin like growth factor.

09:33:56 04/20/11

14. A method of optimizing human growth hormone (hGH) replacement in an adult human comprising

(1) administering an initial dose of hGH in the range of about 2 µg/kg/day hGH to about 4 µg/kg/day on a daily basis for about three to four weeks and determining insulin like growth factor 1 (IGF-1) levels,

(2) thereafter administering serially increasing doses of said initial hGH dose on a daily basis for about three to four weeks and determining IGF-1 levels,

(3) selecting said hGH dose from (2) producing optimal hGH replenishment to administer as a maintenance dose, and

(4) thereafter administering said maintenance dose in the range of about 10 µg/kg/day hGH to about 20 µg/kg/day hGH to said individual.

15. The method of claim 14 wherein said maintenance dose is administered monthly.

16. The method of claim 15 wherein said maintenance dose comprises hGH formulated in microspheres.

17. The method of claim 16 wherein bioavailability for said individual is determined before administering said maintenance dose.

18. The method of claim 14 wherein said maintenance dose is administered daily.